



**DOCUMENT 706-02**

(Revised March 2003)

**FREQUENCY MANAGEMENT GROUP**

**FREQUENCY MANAGEMENT STANDARD  
OPERATING PROCEDURE FOR  
FREQUENCY DECONFLICTION**

**WHITE SANDS MISSILE RANGE  
REAGAN TEST SITE  
YUMA PROVING GROUND  
DUGWAY PROVING GROUND  
ABERDEEN TEST CENTER  
NATIONAL TRAINING CENTER**

**ATLANTIC FLEET WEAPONS TRAINING FACILITY  
NAVAL AIR WARFARE CENTER WEAPONS DIVISION  
NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION  
NAVAL UNDERSEA WARFARE CENTER DIVISION, NEWPORT  
PACIFIC MISSILE RANGE FACILITY  
NAVAL UNDERSEA WARFARE CENTER DIVISION, KEYPORT  
NAVAL STRIKE AND AIR WARFARE CENTER**

**30<sup>TH</sup> SPACE WING  
45<sup>TH</sup> SPACE WING  
AIR FORCE FLIGHT TEST CENTER  
AIR FORCE DEVELOPMENT TEST CENTER  
AIR WARFARE CENTER  
ARNOLD ENGINEERING DEVELOPMENT CENTER  
BARRY M. GOLDWATER RANGE  
UTAH TEST AND TRAINING RANGE**

**NATIONAL NUCLEAR SECURITY ADMINISTRATION (NEVADA OPERATIONS OFFICE)**

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**FREQUENCY MANAGEMENT STANDARD OPERATING PROCEDURE  
FOR FREQUENCY DECONFLICTION**

**JULY 2002**  
(Revised March 2003)

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## ACRONYMS

AEPLRS	Airborne Enhanced Position Location Reporting System
AFC	Area Frequency Coordinator
DOD	Department of Defense
EAFC	Eastern Area Frequency Coordinator
FMO	Frequency Management Office
IFDS	Integrated Frequency Deconfliction System
RCC	Range Commanders Council
ROG	Range Operations Group (RCC)
SFMO	Station Frequency Management Office
SOP	Standard Operating Procedure
RSO	Range Scheduling Office
TM	Test Manager
WAFC	Western Area Frequency Coordinator

## **PREFACE**

This document was prepared by a working group of the Range Commanders Council (RCC) Frequency Management Group (FMG). It represents the culmination of FMG Task FM-27, Establish RCC Interrange Frequency Deconfliction and Resolution Procedure. A copy of the task FM-27 objectives and guidelines is at appendix D.

The FMG welcomes comments regarding this publication and requests that they be forwarded to the RCC Secretariat using the contact information below.

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**SECTION 1**  
**FREQUENCY MANAGEMENT**  
**STANDARD OPERATING PROCEDURE (SOP) FOR**  
**INTERRANGE FREQUENCY DECONFLICTION**

1.1 PURPOSE/SCOPE. The following procedure will be used to resolve conflicts in the use of the frequency spectrum between the Department of Defense (DOD) and contractor ranges. The procedure applies:

- a. When a project uses more than one range to conduct its test requirements.
- b. When a Joint Project covers multiple ranges or when mission or range support radio frequency (RF) transmissions interfere with other projects across several ranges and/or DOD Area Frequency Coordination (AFC) areas.
- c. When area spectrum coordination is required for command and control, command destruct, flight termination, airborne telemetry, and air combat training systems and Unmanned Aerial Vehicles (UAVs).

1.1.1 All activities associated with such systems will enter their test requirements into the Integrated Frequency Deconfliction System (IFDS) through a dedicated Inter-Area Server for information and review by all cognizant personnel.

1.1.2 The 45<sup>th</sup> Space Wing Range Operations/Scheduling Office, Frequency Management Office (FMO), and the DOD Eastern Area Frequency Coordinator (EAFC) do not use the IFDS. They will continue to use local and national level procedures for frequency deconfliction and local and interranger/AFC coordination.

1.2 POLICIES/RESPONSIBILITIES. The Frequency Management Offices (FMOs) will perform the following:

- a. As part of the test scheduling procedure, review the intended schedule a week before the requested tests. This review should normally take place at the weekly scheduling meetings with the Test Managers and the Range Scheduling Group.
- b. After the scheduling process has taken place, use the IFDS to identify all conflicts and to clear administrative (i.e., no impact) operations. The deconfliction process may vary per the individual Frequency Management, Scheduling, and Range Operations Offices. Access to the IFDS can provide information to quickly identify possible solutions.
- c. As needed, negotiate resolutions to any existing range, interranger, or inter-agency conflicts with the appropriate activities. Reference the IFDS as necessary to resolve and clear these scheduling conflicts.
- d. Periodically check the IFDS for any new scheduling conflicts. Negotiate schedule changes at the lowest possible level (i.e., Spectrum Management, Scheduling Office, etc.).

If at this point there is still an unresolved conflict that cannot be coordinated at this level, contact should be made with the respective Range Scheduling Authority to resolve the issue.

1.3 DECONFLICTION PROCESS. The process by which the individual offices deconflict may vary. They can go to any of the following activities for information, negotiation, technical evaluation, or concurrence to avoid or resolve spectrum inter-area or inter-agency conflicts:

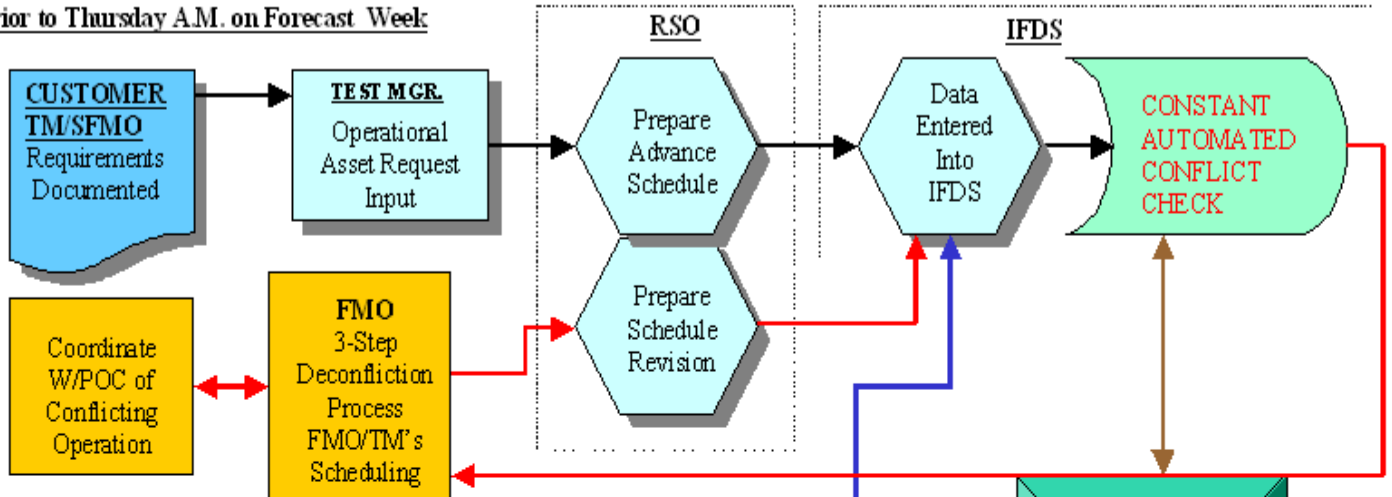
- a. Neighboring Frequency Management Office or DOD AFC (for independent analysis or for coordinated analysis with conflicting project AFC).
- b. Conflicting Range Operations Organization.
- c. Conflicting Range Scheduling Organization.
- d. Conflicting Project Test Office.
- e. Conflicting Project-Supporting Organizations.



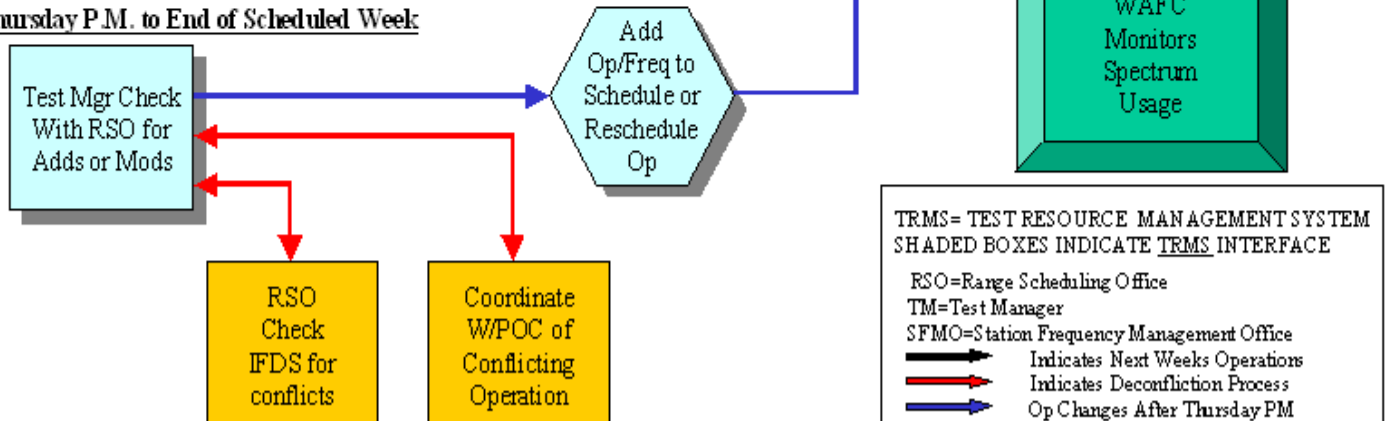
## APPENDIX A

### FREQUENCY MANAGEMENT DECONFLICTION PROCESS

Prior to Thursday A.M. on Forecast Week



Thursday P.M. to End of Scheduled Week



TRMS= TEST RESOURCE MANAGEMENT SYSTEM  
SHADED BOXES INDICATE TRMS INTERFACE

RSO=Range Scheduling Office

TM=Test Manager

SFMO=Station Frequency Management Office

Indicates Next Weeks Operations

Indicates Deconflation Process

Op Changes After Thursday PM

## **APPENDIX B**

### **DOD AFC'S AND NATIONAL TEST RANGES' STANDARD OPERATING PROCEDURE (SOP) FOR INTERRANGE SPECTRUM COORDINATION**

1. **PURPOSE/SCOPE.** The following procedures will be used to resolve conflicts in the use of the frequency spectrum between Department of Defense (DOD) ranges and associated range DOD Area Frequency Coordination (AFC) areas. The procedure applies:

- a. When a project uses more than one range to conduct its test requirements.
- b. When a Joint Project covers multiple ranges.
- c. When mission or range support radio frequency (RF) transmissions interfere with other projects across several ranges and/or DOD AFC areas.

1.1 Items identified to date requiring interranger area spectrum coordination are command control, command destruct, flight termination, airborne telemetry, Global Hawk and the Airborne Enhanced Position Location Reporting System (AEPLRS). Any activity associated with such systems will be entered into the Integrated Frequency Deconfliction System (IFDS) through a dedicated Inter-Area Server for information and review by all cognizant interranger personnel. The Range Operations and/or Scheduling Offices will operate and maintain this Inter-Area Server.

1.2 The 45th Space Wing Range Operations/Scheduling Office, Frequency Management Office (FMO), and the DOD Eastern Area Frequency Coordinator (EAFC) do not use the IFDS. They will continue to use local and national level procedures for frequency deconfliction and local and interranger/AFC coordination.

2. **POLICIES/RESPONSIBILITIES.** The Range Operations/Scheduling Offices will perform the following:

- a. Forecast, as part of the pre-scheduling procedures, upcoming events in advance to identify any possible conflicts with surrounding range activities.
- b. Enter, at T-30 days, projected interranger area related spectrum usage into the Inter-Area Server.
- c. Negotiate resolution of any range, interranger, or inter-agency conflicts with the scheduling activities. Apply the Inter-Area Scheduling Deconfliction Process as necessary to resolve scheduling conflicts or to obtain further information on potential conflicts.
- d. Periodically check the interranger server for any scheduling conflicts. Process/enter any mission additions, cancellations, or changes and respond to requests from the DOD AFC, other ranges, or other agencies for inter-area schedule changes. Negotiate schedule changes at the lowest possible level (i.e., Spectrum Management, Scheduling Office, Range Operations, etc.). Apply the Inter-Area Scheduling Deconfliction Process as necessary to resolve conflicts or to obtain further information on potential conflicts. Continue this reviewing, updating, and negotiating process until missions are completed or canceled.

e. Review range schedule. Ensure that no inter-area or inter-agency spectrum coordination has been overlooked or mistakenly dropped from the Inter-Area Server. Furnish the office of the pertinent DOD AFC an email list of all Inter-Area Server scheduled missions reflected on the one week out schedule. The DOD AFC will also review the one-week out schedule for omissions and will email notice of weekly schedule inter-area related missions and their spectrum related parameters to other concerned AFCs. The DOD AFC will continue to send emails to other AFCs as necessary, if mission or other spectrum related parameters change, until the missions are completed or otherwise canceled.

3. LOCAL SCHEDULING OFFICES. As part of their normal process, Local Scheduling Offices shall consult with project officers, the Range Control and Safety Office, the Spectrum Management Office and the DOD AFC as necessary for general information, special information, and technical evaluation. They will also refer to the Inter-Area Scheduling Deconfliction Process, as necessary, for information, negotiation, and concurrence when scheduling missions involving RF systems that can inter-react with other RF systems at other ranges or within other AFC geographic areas.

4. PROCEDURE. The procedures by which the individual Range Operations/Scheduling Offices deconflict the Inter-Area Scheduling Deconfliction Process can vary. To avoid or resolve spectrum Inter-Area or Inter-Agency conflicts, they can go to one or all of the following activities for information, negotiation, technical evaluation, or concurrence:

a. DOD AFC (for independent analysis or for coordinated analysis with conflicting project-Area Frequency Coordinator and/or the Range Frequency Manager).

b. Conflicting Range Operations Organization.

c. Conflicting Range Scheduling Organization.

d. Conflicting Project Test Office.

e. Conflicting Project-Supporting Organizations.

5. DOD AFC ROLE. The DOD AFC shall perform the following as required:

a. Notify the affected/involved DOD AFC covering the area of a conflicting mission to exchange detailed technical parameters.

b. Perform path loss analysis, evaluate all information, and establish and obtain agreement from other AFCs on the probability or risk of operational radio interference.

c. Make their best recommendation to both range commands and conflicting project management personnel, and bring key people together to negotiate resolution.

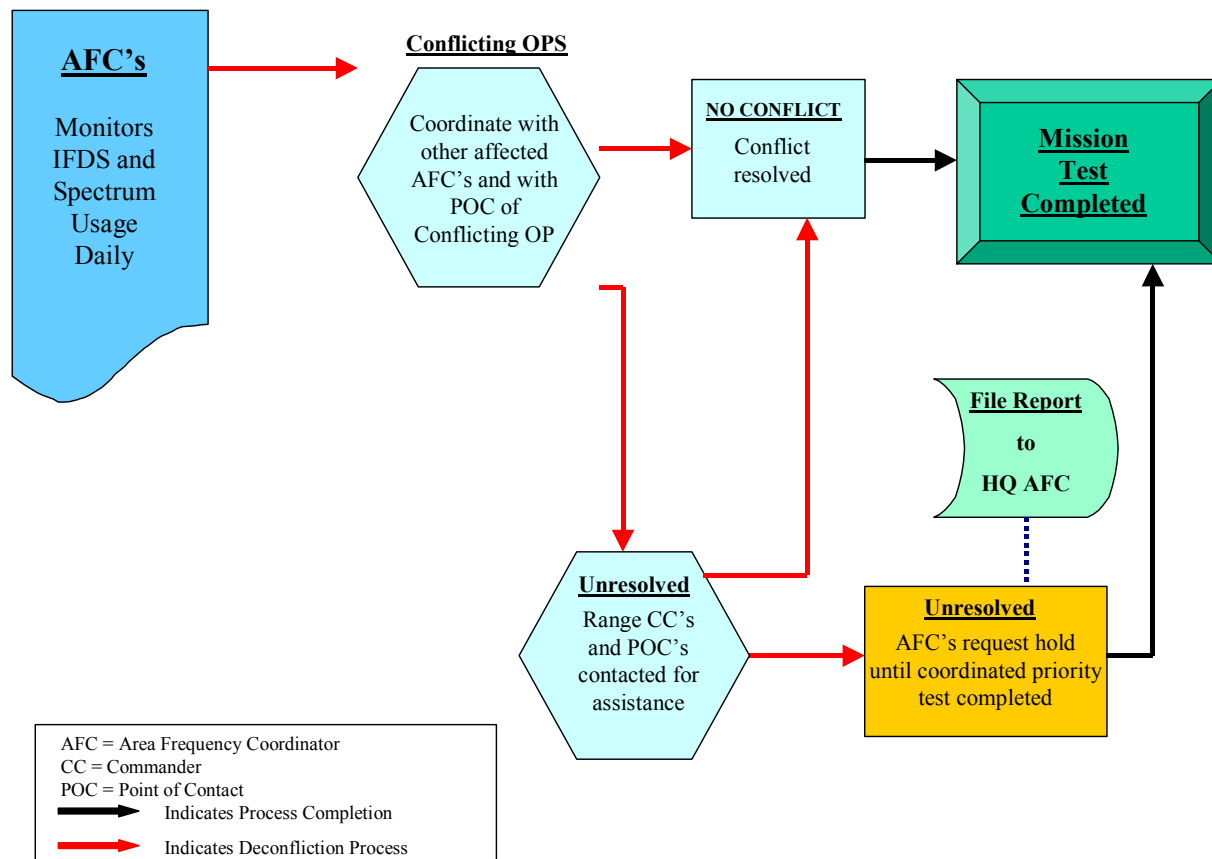
6. UNRESOLVED CONFLICTS: For conflicts that remain unresolved by the above process, range commands, project personnel, and DOD AFCs will evaluate any previously agreed upon project priority system to determine a solution. If that fails, conflicts will be referred to the respective Range Scheduling Authority to resolve the issue. If the affected RCC member ranges

cannot resolve the conflict, or the conflict involves a non-RCC range and an agreement cannot be achieved, the involved DOD AFCs will invoke temporary radio silence. The DOD AFCs will withhold approval to radiate on frequencies supporting the missions in conflict until a resolution is obtained that will not impact safety (per ACP-190 US SUPP-1 (D), Annex B, paragraph 8.b.5).

7. AFC COORDINATION: AFC coordination will be performed in accordance with ACP-190 US SUPP-1 (D) Annex B and applicable MILDEP publications. This SOP only supplements those guidelines.

## APPENDIX C

### AREA FREQUENCY COORDINATOR'S PROCESS



## **APPENDIX D**

### **TASK FM-27 OBJECTIVES/GUIDELINES**

**TITLE:** Establish RCC Interrange Frequency Deconfliction and Resolution Procedure

**SCORE AND SPECIFICATION OBJECTIVES:** Develop procedures for an Interrange Frequency Deconfliction and Resolution Process. These procedures will identify how, who, and when each range will conduct frequency deconfliction and resolution during range operations to avoid possible radio frequency (RF) interference between ranges. It will also identify the next higher echelon at which common commands will make a decision on the use of a frequency when a resolution cannot be accomplished at the lower echelon command. These procedures will include a process by which affected (specific) range Frequency Management Offices, Range Scheduling Offices, Range Program Offices, affected Area Frequency Coordinator(s) and relevant directorate/department/division/branch/section will perform this coordination and frequency deconfliction resolution. The AFC will be included in the spectrum identification and resolution process as the notification agency.

**UTILITY OF END PRODUCT:** This procedure will provide the guidance for all range directorate/department/division/branch/section to follow in resolving and deconflicting interranger frequency use.

**APPROACH:** The Frequency Management Group (FMG) will assign a working group, with two member range co-chairs, to identify Test and Training Range frequency management, range scheduling, range operations directorate/department/division/branch/section relationships, hierarchy, and the next higher echelon common command. The working group will prepare and present the plan for Interrange Frequency Deconfliction and Resolution Procedures for approval in the full FMG body. It will then be submitted to the RCC for approval and distribution.

**ADDITIONAL COORDINATION REQUIRED:** No funding will be required.

**RESOURCES REQUIRED:** Committee members will accomplish task work during regularly scheduled FMG meetings and by using email and telephone.

**TOTAL COST ESTIMATE:** TDY travel for committee members to scheduled FMG meetings. Contractor support and Omnibus funds are not required.

**MILESTONES:**

May 01: FMG Chairman presents Task Proposal to FMG.

November 2001: Task progress briefed to the FMG in Reno, SOP and flow chart presented to the group for comment, November 01.

April 2002: SOP's, flow charts from the Frequency Managers and the Area Frequency Coordinators submitted and finalized.

June 2002: Task FM-27 package submitted to FMG Chairman.